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10/785,017	02/25/2004	Takayuki Kondo	118579	9020

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EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT PAPER NUMBER

2828

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/785,017

Applicant(s)

KONDO, TAKAYUKI

Examiner

ARMANDO RODRIGUEZ

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 16 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 16 and 19 is/are rejected.
- 7) ☒ Claim(s) 10-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed December 6, 2006 have been fully considered but they are not persuasive.

Applicant's arguments on page 7 pertaining to the objection of the drawings, applicant's attention is directed to 37 CFR 1.83 (a), which clearly states "drawings must show every feature of the invention specified in the claims", applicant's reference to paragraph [0081] of specification only describes the possibility (may replace) of a diffraction grating on the substrate. However, claim 11 clearly recites a structural limitation, as such the objection to the drawings will be maintained.

Applicant's arguments on page 7 pertaining to the claim objection of claim 19 as being of improper dependent form, where applicant argues that the recited "electronic equipment" in the preamble limits the structure of the claimed invention. Applicant's attention is directed to MPEP 2111.02: "If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim." Clearly the general and broad terminology of "electronic equipment" does not give life, meaning, vitality and does not limit the claim to any particular structure, as such the claim objection will be maintained.

Applicant's arguments with respect to claims 1-10, 16-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the diffraction grating of claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Election/Restrictions***

Newly submitted claim 20 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claim 20 requires manufacturing steps, which are not required by the previously presented invention and were not previously presented for examination, such as forming a separating groove, separating a layer by selective etching, positioning layers, eliminating adhesiveness, exfoliating, forming a wire.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 20-22 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

#### ***Claim Objections***

Claim 1 is objected to because of the following informalities: as interpreted by the examiner, in line 5 "layer" should as "laser". Appropriate correction is required.

Claim 19 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Applicant has failed to recite any structural limitation to further limit the semiconductor integrated circuit of claim 1.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 9, 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Minemier et al (US 6,093,938).

Regarding claims 1, 19,

Figure 2 illustrates an integrated circuit device including a die (10) column 4 lines 16-17 discloses the dies as semiconductor substrate made of silicon [applicant's transparent substrate], a radiation emitting element (20) column 3 lines 8-10 discloses the use of laser diodes [applicant's surface emitting laser], which is disposed on the die (10), the figure also illustrates a flip-chip die (26) which includes a receptor (38) column 3 lines 5 discloses the use of photodiode [applicant's light receiving device]; as illustrated the flip-chip covers and faces the emitting element (20). It is inherent for the emitting element to be adhered to the substrate.

Regarding claim 2,

Column 3 lines 5 discloses the use of photodiode.

Regarding claim 4,

Figure 2 illustrates the flip-chip including receptor (38) covers and faces the emitting element (20), which will inherently be positioned on the optical axis.

Regarding claim 9,

Column 2 lines 45-48, discloses the emitting element (20) including a microlens.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minemier et al (US 6,093,938) in view of Swirhun et al (US 6,835,992).

Regarding claim 3,

Minemier et al does disclose a laser diode with a photodiode for monitoring, but is silent as to the photodiode being an MSM photodiode.

However, it is well known in the art to use MSM photodetectors to monitor a laser as disclosed by Swirhun et al in the abstract, in column 6 lines 18-25 and illustrated in figure 3.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minemier et al (US 6,093,938) in view of Lebby et al (US 5,838,703).

Regarding claims 5-8,

Minemier et al does disclose a laser diode with a photodiode for control, column 2 lines 37-40, but does not explicitly describe the use of an auto power control circuit.

However, it is well known for laser system with control monitoring elements to provide an auto power control circuit, as disclosed by Lebby et al in column 3 lines 23-31 and column 4 lines 45-50.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Minemier et al (US 6,093,938) in view of Ramdani et al (US 5,832,017).

Minemier et al does disclose in column 4 lines 28-29 an infrared (IR) radiation laser, but is silent as to the structure of the laser, including a lower multilayered reflective layer, an active layer and an upper multilayered reflective layer.

However, lasers having lower and upper multilayered reflective layers and active layers, which produce infrared radiation are well known in the art as illustrated in figure 1 and described in column 2 lines 29-45, which describes an IR VCSEL having a lower mirror stack (12), active region (13) and upper mirror stack (17).

***Allowable Subject Matter***

Claims 10-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARMANDO RODRIGUEZ whose telephone number is 571-272-1952. The examiner can normally be reached on 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
ARMANDO RODRIGUEZ  
Primary Examiner  
Art Unit 2828

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